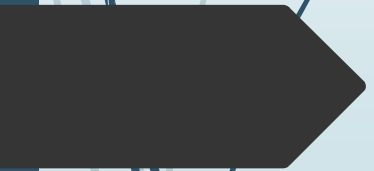


osteoporosis



4) Strontium ranelate:

which increases bone formation and reduces bone resorption, reduces vertebral and non- vertebral (including hip) fractures in postmenopausal women with osteoporosis. It is well tolerated. It can be used in those who are unable to tolerate alendronate or risedronate. It should be avoided in patients with severe renal disease (creatinine clearance below 30 mL/min). It can be used with caution in patients at increased risk of venous thromboembolism and those with phenylketonuria.

5) Hormone replacement therapy (HRT):

Estrogens **increase bone formation and reduce bone resorption**. They also **increase calcium absorption and decrease renal calcium loss**. HRT, if started soon after the menopause, is effective in **preventing vertebral fractures** but has to be continued **lifelong** if protection against fractures is to be maintained. It is associated with **increased risk of endometrial cancer, breast cancer and venous thromboembolism**. One study has shown that HRT may increase the risk of deaths due **to myocardial disease in elderly women** with pre-existing ischemic heart disease. It should be avoided in older patients.

6) Raloxifene:

Raloxifene, an oral selective estrogen receptor modulator (SERM) that has **estrogenic actions on bone and anti-estrogenic actions on the uterus and breast**. It **reduces the risk of vertebral fractures**, but not those at other sites. Adverse effects include **hot flushes, leg cramps, and risk of venous thromboembolism**. It also protects against breast cancer. Its use is restricted, as a second-line drug, to younger postmenopausal women with vertebral osteoporosis

7) Parathyroid hormone peptides:

Teriparatide is the recombinant portion of human parathyroid hormone, amino acid sequence **1–34**, of the complete molecule (which has 84 amino acids). It reduces **vertebral and non-vertebral** fractures in postmenopausal women. It does not reduce hip fractures. It is given **subcutaneously** at a dose of **20 µcg daily**. The recombinant (**full 1–84** amino acid sequence) parathyroid hormone peptide (Preotact®) can also be used at a dose of **100 µcg** daily. It has similar efficacy as teriparatide. Both these drugs are expensive and teriparatide is associated with an increased risk of osteosarcoma in animal studies (extremely rare).



8) Calcitonin:

Calcitonin inhibits osteoclasts and decreases the rate of bone resorption, and may have central analgesic actions. It is effective in **all age groups in preventing vertebral bone loss.** It is costly and has to be given **parenterally or intranasally.** It should not be given for more than 3–6 months at a time to avoid its inhibitory effects on bone resorption and formation, which usually disappear after 2–4 weeks. **Calcitonin is useful in treating acute pain associated with osteoporotic vertebral fractures.**

**“YOU DO NOT HEAL OLD AGE. YOU
PROTECT IT; PROMOTE IT;
EXTEND IT”**

Thank you